

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells et al.

Appl. No.: 10/086,367

Filed: March 4, 2002

For: Method and System for

Frequency Up-Conversion

Confirmation No.: 3679

Art Unit: 2682

RECEIVED

Examiner: Pan, Y.

JAN 0 4 2005

Atty. Docket: 1744.0020007 Technology Center 2600

**Supplemental Information Disclosure Statement** 

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Information Disclosure Statement filed on December 11, 2003 in connection with the above-captioned application.

In addition to providing hard copies of the documents as required by applicable rules (see box 7 below), Applicants herewith provide a Compact Disc labeled "Disc 3" having stored thereon searchable electronic copies (in PDF format) of the documents listed on the PTO-1449. More specifically, the CD contains electronic copies of documents AL23, AG55-AI55, AA56-AI56, AA57-AI57, AA58-AI58, AA59-AI59, AA60-AI60, AA61-AI61, AA62-AI62, AA63-AI63, AA64-AG64, and AN59-AP59. In addition, the CD also contains electronic copies of documents AE54-AI54 and AA55-AF55, all of which were cited in the present application in a previous Information

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Disclosure Statement. The file names on the CD correspond to the identifiers on the PTO-1449 forms. It is noted that the CD is being provided in addition to hard copies of the documents for the convenience of the Examiner.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AL23, AF56-AH56, AO59, and AE61 were cited in an Office Action in related U.S. Patent Application No. 09/669,634, filed September 26, 2000, entitled "High Frequency Translator and Method of High Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 6,049,706; 6,421,534; and 6,560,301, which have already been cited in the present application.

Documents AG55 and AH55 were cited in an Office Action in related U.S. Patent Application No. 10/317,181, filed December 12, 2002, entitled "Differential Frequency Down-Conversion Using Techniques of Universal Frequency Translation Technology," directed to related subject matter.

Documents AI55 and AA56 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB56 and AN59 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB56, AP59, and AG63 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Downconverter Using Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," *IEEE Journal of Selected Topics in Quantum Electronics*, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996); Simoni, A. et al., "A Digital Camera for Machine Vision," 20th International Conference on Industrial Electronics, Control and Instrumentation, IEEE, pp. 879-883 (September 1994); and Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," Electronics & Communication Engineering Journal, IEEE, pp. 37-47 (February 1998), which have already been cited in the present application.

Documents AC56, AD56, AI56, AA57, AD64, and AE64 are co-owned patents which are directed to related subject matter.

Documents AC56, AD56, AI56, AA57, and AH59 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/838,387, filed April 20, 2001,

entitled "Method and System for Down-Converting and Up-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 5,937,013; 6,061,551; and 6,647,250, which have already been cited in the present application.

Documents AD56, AI56, AG61, and AH61 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 6,091,940 and 6,370,371, which have already been cited in the present application.

Document AE56 was cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB57-AE57 were cited in an Office Action in related U.S. Patent Application No. 09/567,978, filed May 10, 2000, entitled "Carrier and Clock Recovery Using Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,937,013, which has already been cited in the present application.

Documents AF57 and AG57 were cited in a Notice of Allowance in related U.S. Patent Application No. 10/330,219, filed December 30, 2002, entitled "Methods and Systems for Down-Converting Electromagnetic Signals, and Applications Thereof," directed to related subject matter.

Documents AH57, AI57, AA58-AI58, and AA59 were cited in an Office Action in related U.S. Patent Application No. 09/566,188, filed May 5, 2000, entitled "Integrated Frequency Translation and Selectivity with Gain Control Functionality, and Applications Thereof," directed to related subject matter.

Documents AB59 and AC59 were cited in an Office Action in related U.S. Patent Application No. 09/632,856, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementation," directed to related subject matter.

Documents AD59-AF59 were cited in an Office Action in related U.S. Patent Application No. 09/569,044, filed May 10, 2000, entitled "Universal Platform Module and Methods and Apparatuses Relating Thereto Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 2,057,613; 2,241,078; 2,283,575; 2,358,152; 2,410,350; 2,451,430; 2,472,798; 4,653,117; and 5,241,561, which have already been cited in the present application.

Document AG59 was cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,471,665; 5,793,817; and 5,898,912, which have already been cited in the present application.

Documents AI59 and AA60 were cited in an Office Action in related U.S. Patent Application No. 09/525,185, filed March 14, 2000, entitled "Spread Spectrum Applications of Universal Frequency Translation," directed to related subject matter.

Also cited in said Office Action were U.S. Patent Nos. 5,339,459; 5,369,789; and 5,937,013, which have already been cited in the present application.

Documents AB60-AE60 were cited in an Office Action in related U.S. Patent Application No. 09/569,045, filed May 10, 2000, entitled "Methods and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459 and 5,557,641, which have already been cited in the present application.

Documents AF60-AH60 were cited in an Office Action in related U.S. Patent Application No. 09/590,955, filed June 9, 2000, entitled "Phase Shifting Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,339,459, which has already been cited in the present application.

Documents AI60, AA61, and AB61 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled "Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AC61 and AD61 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Document AF61 was cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With

Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013 and 5,790,587, which have already been cited in the present application.

Documents AI61, AA62, and AB62 were cited in an Written Opinion in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Written Opinion was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AI61 and AA62-AH62 were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AI62, AA63, and AB63 were cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013; 6,014,551; 6,073,001; 6,085,073; and 6,314,279, which have already been cited in the present application.

Documents AC63-AF63 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus

for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AH63, AI63, AA64, and AB64 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

Document AC64 was cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

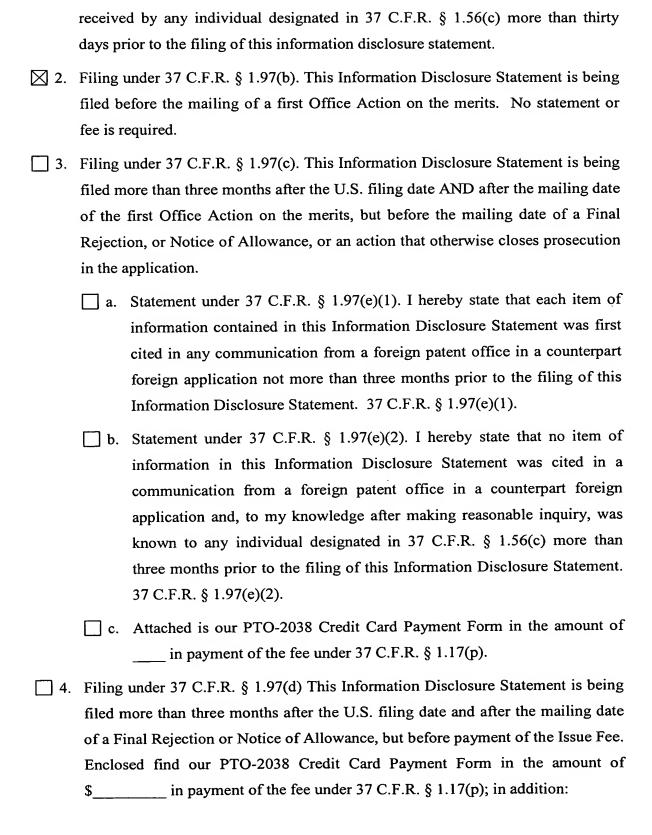
Documents AF64 and AG64 were cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

It is noted that some of these documents could be classified in more than one of the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this
Information Disclosure Statement was cited in a communication from a foreign
patent office in a counterpart application and this communication was not



a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1). b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2). 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38. ⊠ 6. A concise explanation of the relevance of non-English language document AL23 appears below: Document AL23 (DE 196 48 915 A1) appears to describe a process of frequency conversion. An English-language translation of document AL23 is enclosed as document AO59. 7. Copies of documents AL23, AN59, AO59, and AP59 are enclosed. However, in accordance with 37 C.F.R. § 1.98(a)(2), copies of the U.S. patents and patent application publications cited on the attached Form PTO-1449 are not enclosed. 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No.\_\_\_\_\_, filed , which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

☑ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no. 09/379,497, filed August 23, 1999 (now U.S. Pat. No. 6,353,735), in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution histories have been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed Form PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Patrick E. Garrett Attorney for Applicants Registration No. 39,987

Date: 12/29/04

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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AK  AL23 DE 196 48 915 A1 06/1998 DE (Doc. AO5:  AM  OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)  AN 59 Simoni, A. et al., "A Single-Chip Optical Sensor with Analog Memory for Motion Detection," IEEE Journal of Solid-State Circuits, IEEE, Vol. 30, No. 7, pp. 800-806 (July 1995).  AO 59 English Translation of German Patent Publication No. DE 196 48 915 A1, 10 pages.  AP 59 Deboo, Gordon J., Integrated Circuits and Semiconductor Devices, 2 <sup>nd</sup> Edition, McGraw-Hill Inc., pp. 41-45 (1977).		AJ							Yes No
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	AA57	6,704,558 B1	03/2004			RE	CEIVE
	AB57	5,490,176	02/1996	Peltier			
	AC57	5,970,053	10/1999	Schick et al.		<del> </del>	AN 0 4 2005
	AD57	6,078,630	06/2000	Prasanna		Techno	logy Center 26
	AE57	6,600,911 B1	07/2003	Morishige et al.			
	AF57	5,179,731	01/1993	Tränkle et al.			
	AG57	5,589,793	12/1996	Kassapian			
	AH57	4,510,467	04/1985	Chang et al.			
	Al57	4,772,853	09/1988	Hart			
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	AB58	5,0	)12,245	04/1991	Scott et al.			CEIVE
	AC58	5,4	122,909	06/1995	Love et al.		J/	N 0 4 2005
	AD58	5,4	140,311	08/1995	Gallagher et al.		Techno	ogy Center 2
	AE58	5,9	926,513	07/1999	Suominen et al.			
	AF58	5,9	995,030	11/1999	Cabler			
	AG58	6,0	047,026	04/2000	Chao et al.			
	AH58	6,0	049,573	04/2000	Song			
	AI58	6,0	076,015	06/2000	Hartley et al.			
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Page 5 of 10 APPLICATION NO ATTY. DOCKET NO. 1744.0020007 10/086,367 **FORM PTO-1449** FIRST NAMED INVENTOR David F. Sorrells SUPPLEMENTAL FILING DATE ART UNIT ATION DISCLOSURE STATEMENT March 4, 2002 2682 Technology Center 2600 **U.S. PATENT DOCUMENTS EXAMINER** SUB-CLASS | FILING DATE DOCUMENT NUMBER DATE NAME CLASS INITIAL AA59 6,144,331 11/2000 **Jiang** 01/2000 Sanielevici et al. **AB59** 6,018,553 11/2001 AC59 6,317,589 B1 Nash Stone et al. AD59 5,058,107 10/1991 05/1998 Black et al. 5,757,858 AE59 03/2003 Hynes AF59 6,531,979 B1 Noro et al. 6,018,262 01/2000 **AG59** 4,761,798 08/1988 Griswold, Jr. et al. **AH59** Bazarjani et al. 11/1999 5,982,315 AI59 **FOREIGN PATENT DOCUMENTS** EXAMINER CLASS SUB-CLASS **TRANSLATION** COUNTRY DOCUMENT NUMBER DATE INITIAL Yes ΑJ No Yes AK No Yes AL No Yes AM No OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO ΑP AQ AR

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and not considered. Include copy of this form with next communication to Applicant.

DATE CONSIDERED

**EXAMINER** 

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	AA60	6,459,721 B1	10/2002	Mochizuki et al.			
	AB60	6,151,354	11/2000	Abbey		RE	CEIVE
-	AC60	6,169,733 B1	01/2001	Lee		1	AN 0 4 2005
	AD60	6,363,262 B1	03/2002	McNicol		Toohno	AN 0 4 2005 logy Center 26
	AE60	6,697,603 B1	02/2004	Lovinggood et al.		Technic	logy come.
	AF60	5,282,222	01/1994	Fattouche et al.			
	AG60	5,949,827	09/1999	DeLuca et al.			
	AH60	6,014,176	01/2000	Nayebi <i>et al</i> .			
	Al60	5,678,226	10/1997	Li et al.			
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IAL	AA61	5,760,632	06/1998	NAME Kawakami <i>et al.</i>	CLASS	SUB-CLASS	FILING DATE	
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	AB61	6,160,280	12/2000	Bonn et al.		J	AN 0 4 2005	
	AC61	5,481,570	01/1996	Winters		Techno	l plogy Center 2	
	AD61	5,745,846	04/1998	Myer et al.		1001111	ology contains	
	AE61	5,345,239	09/1994	Madni et al.				
	AF61	4,132,952	01/1979	Hongu et al.				
	AG61	5,260,973	11/1993	Watanabe				
	AH61	6,307,894 B2	10/2001	Eidson et al.				
	Al61	6,091,289	07/2000	Song et al.				
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	AA62	$\top$	37,639 B1	08/2002	Nguyen et al.			
	AB62	200	02/0037706 A1	03/2002	Ichihara		RE	CEIVE
	AC62	4,4	41,080	04/1984	Saari			
	AD62	4,8	73,492	10/1989	Myer		JF	N 0 4 2005 logy Center 2
	AE62	5,6	97,074	12/1997	Makikallio et al.		Techno	ogy Center 2
	AF62	5,7	84,689	07/1998	Kobayashi			
	AG62	6,3	35,656 B1	01/2002	Goldfarb et al.			
	AH62	6,6	90,232 B2	02/2004	Ueno <i>et al.</i>			
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	AA63	6,366,622 B1	04/2002	Brown et al.			
	AB63	6,600,795 B1	07/2003	Ohta et al.		RE	CEIVE
	AC63	4,250,458	02/1981	Richmond et al.		.14	N 0 4 2005
	AD63	5,760,629	06/1998	Urabe et al.		39797	ogy Center 2
	AE63	6,084,465	07/2000	Dasgupta		1001110	ogy center 2
	AF63	6,204,789 B1	03/2001	Nagata			
	AG63	6,064,054	05/2000	Waczynski et al.			
	AH63	5,218,562	06/1993	Basehore et al.			
	AI63	5,239,496	08/1993	Vancraeynest			
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AB64 6,005,903 12/1999 Mendelovicz REC EW  AC64 5,834,979 11/1998 Yatsuka JAN 04 2/2  AC64 6,83,345 B1 09/2004 Sorrells et al. JAN 04 2/2  AC64 6,813,485 B2 11/2004 Sorrells et al. Technology Cen  AC64 6,510,270 04/1995 Rybicki et al.  AC64 6,509,777 B2 01/2003 Razavi et al.  AH AI COUMENTS  EXAMINER INITIAL AJ DOCUMENT NUMBER ATE COUNTRY CLASS SUB-CLASS TRANSL  AK AL AL AM AM AL AM	INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
AC64 5,834,979 11/1998 Yatsuka REGLIV  AD64 6,798,351 B1 09/2004 Sorrells et al. JAN 0 4 2/1  AE64 6,813,485 B2 11/2004 Sorrells et al. Technology Cen/  AF64 5,410,270 04/1995 Rybicki et al.  AG64 6,509,777 B2 01/2003 Razavi et al.  AH AI COUNTRY CLASS SUB-CLASS TRANSL  EXAMINER INITIAL AJ AK AL AL AM OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)  AN AC AC AC AR AC AC AC AR AC		AA64	5,896,304	04/1999	Tiemann et al.			
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